

CORRECTED VERSION

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number  
WO 2004/004297 A3

(51) International Patent Classification<sup>7</sup>: H04M 9/08,  
G10L 21/02

A., C., M. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(21) International Application Number:  
PCT/IB2003/002823

(74) Agent: GROENENDAAL, Antonius, W., M.; Philips  
Intellectual Property & Standards, Prof. Holstlaan 6,  
NL-5656 AA Eindhoven (NL).

(22) International Filing Date: 19 June 2003 (19.06.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
02077608.4 1 July 2002 (01.07.2002) EP

(71) Applicant (*for all designated States except US*): KONIN-  
KLJKE PHILIPS ELECTRONICS N.V. [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

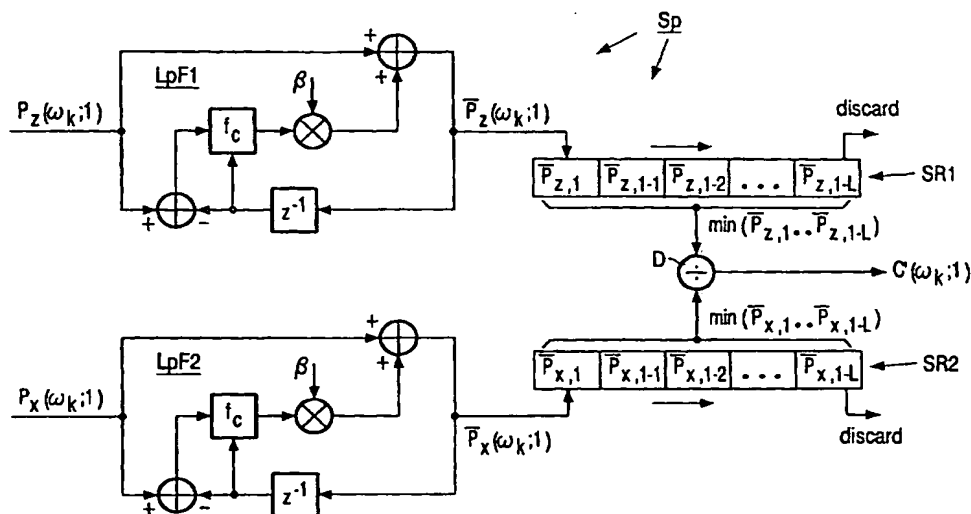
(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): ROOVERS, David,

[Continued on next page]

(54) Title: STATIONARY SPECTRAL POWER DEPENDENT AUDIO ENHANCEMENT SYSTEM



(57) Abstract: An audio enhancement system (1) for speech recognition or voice control is described, comprising a signal input for carrying a distorted desired signal (z), a reference signal input, and a spectral processor (SP) coupled to both signal inputs for processing the distorted desired signal (z) by means of a reference signal (x) acting as an estimate for the distortion of the desired signal. The spectral processor (SP) is equipped for said processing such that a factor C' is determined, whereby said estimate is a function of the factor C' times the spectral power of the reference signal (x), and the factor C is determined as the spectral ratio between those components of the signals z and x, which are essentially stationary with time. Such a factor determined by stationary parts of those signals makes application of a critical speech detector in the audio enhancement system superfluous.

